0280

#2 OIPE

RAW SEQUENCE LISTING DATE: 12/13/2001
PATENT APPLICATION: **US/10/003,356** TIME: 09:00:36

Input Set : **A:\00-107.SEQ.txt**
Output Set: **N:\CRF3\12132001\I003356.raw**

P5

ENTERED

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      <110> APPLICANT: Lok, Si
            Holloway, James L.
      <120> TITLE OF INVENTION: Human V2 Vomeronasal Receptor
      <130> FILE REFERENCE: 00-107
C--> <140> CURRENT APPLICATION NUMBER: US/10/003,356
C--> <141> CURRENT FILING DATE: 2001-11-15
      <150> PRIOR APPLICATION NUMBER: 60/252,373
      <151> PRIOR FILING DATE: 2000-11-21
      <160> NUMBER OF SEQ ID NOS: 10
      <170> SOFTWARE: FastSEQ for Windows Version 4.0
      <210> SEQ ID NO: 1
      <211> LENGTH: 657
      <212> TYPE: DNA
      <213> ORGANISM: Homo sapiens
      <220> FEATURE:
      <221> NAME/KEY: CDS
      <222> LOCATION: (1)...(657)
      <400> SEQUENCE: 1
atg ttt gag agg cgc aaa gag caa gac gag gga cca gga atc cat gaa   48
Met Phe Glu Arg Arg Lys Glu Gln Asp Glu Gly Pro Gly Ile His Glu
 1               5                  10                  15
ttt ctt gca ttt tta tgg gct gaa ttg ggc tct gaa gcc aaa gaa gag   96
Phe Leu Ala Phe Leu Trp Ala Glu Leu Gly Ser Glu Ala Lys Glu Glu
            20                  25                  30
aaa gaa gaa gaa cgg acc tgc cgg ttg ctg ggc aag tgt gta gat gcc   144
Lys Glu Glu Glu Arg Thr Cys Arg Leu Leu Gly Lys Cys Val Asp Ala
        35                  40                  45
gaa aac cat tcc ctt gtt att gga gga ctg ttt cct att gac tcc agg   192
Glu Asn His Ser Leu Val Ile Gly Gly Leu Phe Pro Ile Asp Ser Arg
    50                  55                  60
acc atc cca gca aat gag tct att ttg gag cca gca tca gca aaa tgt   240
Thr Ile Pro Ala Asn Glu Ser Ile Leu Glu Pro Ala Ser Ala Lys Cys
65                  70                  75                  80
gaa ggg ttt aac ttt cag aga ttc cgc tgg atg aaa gcc atg atc cac   288
Glu Gly Phe Asn Phe Gln Arg Phe Arg Trp Met Lys Ala Met Ile His
                85                  90                  95
atg atc aag gag att aat aag agg aag gat att ttg ccc aac atc act   336
Met Ile Lys Glu Ile Asn Lys Arg Lys Asp Ile Leu Pro Asn Ile Thr
            100                 105                 110
ctg ggc tat cag atc ttt gat acc tgt ttt acc atc tcc aaa tca gtg   384
Leu Gly Tyr Gln Ile Phe Asp Thr Cys Phe Thr Ile Ser Lys Ser Val
        115                 120                 125
gaa gca gtc ttg gta ttt ctt aca ggg cag gaa gaa aac agg ccc aat   432
Glu Ala Val Leu Val Phe Leu Thr Gly Gln Glu Glu Asn Arg Pro Asn
    130                 135                 140
ttt aga aac agc act gga gca ttt ccg gca gga att gtt gga gca ggt   480
Phe Arg Asn Ser Thr Gly Ala Phe Pro Ala Gly Ile Val Gly Ala Gly
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Input Set : A:\00-107.SEQ.txt
Output Set: N:\CRF3\12132001\I003356.raw

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66 145                 150                 155                 160
68 gga tca ttc tta tca gtt cct gct tca aga att cta ggg tta tat tat   528
69 Gly Ser Phe Leu Ser Val Pro Ala Ser Arg Ile Leu Gly Leu Tyr Tyr
70                 165                 170                 175
72 ttg cct cag gtg ggc tat acc tct acc tgc gtg att ctt agt gac aaa   576
73 Leu Pro Gln Val Gly Tyr Thr Ser Thr Cys Val Ile Leu Ser Asp Lys
74             180                 185                 190
76 tac cag ttt cca tct tat ctt cgt gta ata gcc agc gat aag atc cag   624
77 Tyr Gln Phe Pro Ser Tyr Leu Arg Val Ile Ala Ser Asp Lys Ile Gln
78         195                 200                 205
80 tcg aag gct gtg gta aaa cgt atc caa cac ttt                       657
81 Ser Lys Ala Val Val Lys Arg Ile Gln His Phe
82     210                 215
84 <210> SEQ ID NO: 2
85 <211> LENGTH: 219
86 <212> TYPE: PRT
87 <213> ORGANISM: Homo sapiens
89 <400> SEQUENCE: 2
90 Met Phe Glu Arg Arg Lys Glu Gln Asp Glu Gly Pro Gly Ile His Glu
91  1               5                  10                  15
92 Phe Leu Ala Phe Leu Trp Ala Glu Leu Gly Ser Glu Ala Lys Glu Glu
93             20                  25                  30
94 Lys Glu Glu Glu Arg Thr Cys Arg Leu Leu Gly Lys Cys Val Asp Ala
95         35                  40                  45
96 Glu Asn His Ser Leu Val Ile Gly Gly Leu Phe Pro Ile Asp Ser Arg
97     50                  55                  60
98 Thr Ile Pro Ala Asn Glu Ser Ile Leu Glu Pro Ala Ser Ala Lys Cys
99 65                  70                  75                  80
100 Glu Gly Phe Asn Phe Gln Arg Phe Arg Trp Met Lys Ala Met Ile His
101                 85                  90                  95
102 Met Ile Lys Glu Ile Asn Lys Arg Lys Asp Ile Leu Pro Asn Ile Thr
103             100                 105                 110
104 Leu Gly Tyr Gln Ile Phe Asp Thr Cys Phe Thr Ile Ser Lys Ser Val
105         115                 120                 125
106 Glu Ala Val Leu Val Phe Leu Thr Gly Gln Glu Glu Asn Arg Pro Asn
107     130                 135                 140
108 Phe Arg Asn Ser Thr Gly Ala Phe Pro Ala Gly Ile Val Gly Ala Gly
109 145                 150                 155                 160
110 Gly Ser Phe Leu Ser Val Pro Ala Ser Arg Ile Leu Gly Leu Tyr Tyr
111                 165                 170                 175
112 Leu Pro Gln Val Gly Tyr Thr Ser Thr Cys Val Ile Leu Ser Asp Lys
113             180                 185                 190
114 Tyr Gln Phe Pro Ser Tyr Leu Arg Val Ile Ala Ser Asp Lys Ile Gln
115         195                 200                 205
116 Ser Lys Ala Val Val Lys Arg Ile Gln His Phe
117     210                 215
119 <210> SEQ ID NO: 3
120 <211> LENGTH: 657
121 <212> TYPE: DNA
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RAW SEQUENCE LISTING DATE: 12/13/2001
PATENT APPLICATION: US/10/003,356 TIME: 09:00:36

Input Set : A:\00-107.SEQ.txt
Output Set: N:\CRF3\12132001\I003356.raw

122 <213> ORGANISM: Artificial Sequence
124 <220> FEATURE:
125 <223> OTHER INFORMATION: This degenerate nucleotide sequence encodes the
126 amino acid sequence of SEQ ID NO:2.
128 <221> NAME/KEY: misc_feature
129 <222> LOCATION: 12, 15, 33, 36, 39, 54, 57, 63, 69, 75, 78, 81, 87, 111,
130 114, 120, 123, 126, 129, 138, 144, 156, 159, 162, 168, 171,
131 174, 180, 189, 192, 195, 201, 204, 213, 219, 225, 228, 231,
132 234, 246, 261, 267, 279, 312, 324, 327, 336, 339, 342
133 <223> OTHER INFORMATION: n = A,T,C or G
135 <221> NAME/KEY: misc_feature
136 <222> LOCATION: 360, 369, 375, 381, 384, 390, 393, 396, 399, 405, 408, 411,
137 426, 429, 438, 444, 447, 450, 453, 459, 462, 465, 471, 474,
138 477, 480, 483, 486, 492, 495, 498, 501, 504, 507, 510, 516,
139 519, 522, 531, 534, 540, 543, 549, 552, 555, 561, 567
140 <223> OTHER INFORMATION: n = A,T,C or G
142 <221> NAME/KEY: misc_feature
143 <222> LOCATION: 570, 588, 591, 597, 600, 603, 609, 612, 627, 633, 636, 639,
144 645
145 <223> OTHER INFORMATION: n = A,T,C or G
147 <400> SEQUENCE: 3
W--> 148 atgttygarm gnmgnaarga rcargaygar ggnccnggna thcaygartt yytngcntty 60
W--> 149 ytntgggcng arytnggnws ngargcnaar gargaraarg argargarmg nacntgymgn 120
W--> 150 ytnytnggna artgygtnga ygcngaraay caywsnytng tnathggngg nytnttyccn 180
W--> 151 athgaywsnm gnacnathcc ngcnaaygar wsnathytng arccngcnws ngcnaartgy 240
W--> 152 garggnttya ayttycarmg nttymgntgg atgaargcna tgathcayat gathaargar 300
W--> 153 athaayaarm gnaargayat hytnccnaay athacnytng gntaycarat httygayacn 360
W--> 154 tgyttyacna thwsnaarws ngtngargcn gtnytngtnt tyytnacngg ncargargar 420
W--> 155 aaymgnccna ayttymgnaa ywsnacnggn gcnttyccng cnggnathgt nggngcnggn 480
W--> 156 ggnwsnttyy tnwsngtncc ngcnwsnmgn athytnggny tntaytayyt nccncargtn 540
W--> 157 ggntayacnw snacntgygt nathytnwsn gayaartayc arttyccnws ntayytnmgn 600
W--> 158 gtnathgcnw sngayaarat hcarwsnaar gcngtngtna armgnathca rcaytty 657
160 <210> SEQ ID NO: 4
161 <211> LENGTH: 1140
162 <212> TYPE: DNA
163 <213> ORGANISM: Homo sapiens
165 <220> FEATURE:
166 <221> NAME/KEY: CDS
167 <222> LOCATION: (1)...(1140)
169 <400> SEQUENCE: 4
170 ctt ccc cat tca gtg tgt act gat gtg tgt cct cct ggg act gga agg 48
171 Leu Pro His Ser Val Cys Thr Asp Val Cys Pro Pro Gly Thr Gly Arg
172 1 5 10 15
174 gga ttc gtt cag agg gaa cca ata tgc tgc ttt gac tcc atc cca tgt 96
175 Gly Phe Val Gln Arg Glu Pro Ile Cys Cys Phe Asp Ser Ile Pro Cys
176 20 25 30
178 gct gat gga cac gtg tca cgg aaa cca ggt gaa agg gag tgt gaa caa 144
179 Ala Asp Gly His Val Ser Arg Lys Pro Gly Glu Arg Glu Cys Glu Gln
180 35 40 45

RAW SEQUENCE LISTING DATE: 12/13/2001
PATENT APPLICATION: US/10/003,356 TIME: 09:00:36

Input Set : A:\00-107.SEQ.txt
Output Set: N:\CRF3\12132001\I003356.raw

```
182 tgt ggt gaa gac tat tgg tca aat gca caa aag agc gag tgt gtg ctg   192
183 Cys Gly Glu Asp Tyr Trp Ser Asn Ala Gln Lys Ser Glu Cys Val Leu
184      50                  55                  60
186 aaa gag gtg gaa tac ctt gct tat gat gag gcc ctg gga ttc aca ctt   240
187 Lys Glu Val Glu Tyr Leu Ala Tyr Asp Glu Ala Leu Gly Phe Thr Leu
188  65                  70                  75                  80
190 gtc att ctt tct gtc ttt ggg gca ttt gtg gtc ttg gca gtc aca gct   288
191 Val Ile Leu Ser Val Phe Gly Ala Phe Val Val Leu Ala Val Thr Ala
192                 85                  90                  95
194 gtg tat gtg ata cac agg cac act ccc ctg gtg aac gcc agt gac tgg   336
195 Val Tyr Val Ile His Arg His Thr Pro Leu Val Asn Ala Ser Asp Trp
196             100                 105                 110
198 cag ctg ggc ttt ctc att cag gtt tct ctg atc atc atg ctg ctg tcg   384
199 Gln Leu Gly Phe Leu Ile Gln Val Ser Leu Ile Ile Met Leu Leu Ser
200         115                 120                 125
202 tcc atg ctt ttc att gac aag cca cac aac tgg tcc tgc atg gct ggc   432
203 Ser Met Leu Phe Ile Asp Lys Pro His Asn Trp Ser Cys Met Ala Gly
204     130                 135                 140
206 cag gtc act ctg gca ctg ggc ttt tct ctt tgc ctg tct tgc ctt ctt   480
207 Gln Val Thr Leu Ala Leu Gly Phe Ser Leu Cys Leu Ser Cys Leu Leu
208 145                 150                 155                 160
210 gga aag act agt tca ctg ttt tta gcc tac aga att tcc aaa tcc aaa   528
211 Gly Lys Thr Ser Ser Leu Phe Leu Ala Tyr Arg Ile Ser Lys Ser Lys
212                 165                 170                 175
214 act caa ctt aca tcc atg cac ccc ctt tat cgg aaa atc att gtg cta   576
217 Thr Gln Leu Thr Ser Met His Pro Leu Tyr Arg Lys Ile Ile Val Leu
218             180                 185                 190
220 atc tct gtt cta gcg gag att ggc ata tgt aca gcc tac ttg ata ttg   624
221 Ile Ser Val Leu Ala Glu Ile Gly Ile Cys Thr Ala Tyr Leu Ile Leu
222         195                 200                 205
224 gaa cct ccc atg gta tac aag aac atg gaa tct caa aat aca aag atc   672
225 Glu Pro Pro Met Val Tyr Lys Asn Met Glu Ser Gln Asn Thr Lys Ile
226     210                 215                 220
228 att ctg gga tgc aat gaa att tcc ata gag ttt ttg tac tcg atg ttt   720
229 Ile Leu Gly Cys Asn Glu Ile Ser Ile Glu Phe Leu Tyr Ser Met Phe
230 225                 230                 235                 240
232 gga att gat gcc ttc tta gcc ttg cta tgc ttt ctt aca act ttt gtg   768
233 Gly Ile Asp Ala Phe Leu Ala Leu Leu Cys Phe Leu Thr Thr Phe Val
234                 245                 250                 255
236 gct cgc cag tta cca gat aat tac tat gaa gga aaa tgc atc acc ttt   816
237 Ala Arg Gln Leu Pro Asp Asn Tyr Tyr Glu Gly Lys Cys Ile Thr Phe
238             260                 265                 270
240 ggg atg ctt gtc ttt ttc atc att tgg atg tct ttt gtc cct gtt tat   864
241 Gly Met Leu Val Phe Phe Ile Ile Trp Met Ser Phe Val Pro Val Tyr
242         275                 280                 285
244 ttg agc acc aaa ggc aag ttc aaa atg gct gtg gaa ata ttt gca atc   912
245 Leu Ser Thr Lys Gly Lys Phe Lys Met Ala Val Glu Ile Phe Ala Ile
246     290                 295                 300
248 ttg gca tcc agc cat ggc ttg ttg ggt tgt ata ttt gct cct aag tgc   960
```

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PATENT APPLICATION: US/10/003,356 TIME: 09:00:36

Input Set : A:\00-107.SEQ.txt
Output Set: N:\CRF3\12132001\I003356.raw

```
249 Leu Ala Ser Ser His Gly Leu Leu Gly Cys Ile Phe Ala Pro Lys Cys
250 305                 310                 315                 320
252 ctc att att ttg ctg agg cca gag agg aac acc agt gaa att gtt tgt   1008
253 Leu Ile Ile Leu Leu Arg Pro Glu Arg Asn Thr Ser Glu Ile Val Cys
254                 325                 330                 335
256 gga aga gtc tcc acc aca gat aat tgc atc caa ctg acc tca gct ttt   1056
257 Gly Arg Val Ser Thr Thr Asp Asn Cys Ile Gln Leu Thr Ser Ala Phe
258             340                 345                 350
260 gtg agc agt gag ctt aac aat acc aca gtg tca act gtt ctg gat gac   1104
261 Val Ser Ser Glu Leu Asn Asn Thr Thr Val Ser Thr Val Leu Asp Asp
262         355                 360                 365
264 aga gtt ttg att tac atg tgt cct ttg aag ctg caa                  1140
265 Arg Val Leu Ile Tyr Met Cys Pro Leu Lys Leu Gln
266     370                 375                 380
268 <210> SEQ ID NO: 5
269 <211> LENGTH: 380
270 <212> TYPE: PRT
271 <213> ORGANISM: Homo sapiens
273 <400> SEQUENCE: 5
274 Leu Pro His Ser Val Cys Thr Asp Val Cys Pro Pro Gly Thr Gly Arg
275  1               5                  10                  15
276 Gly Phe Val Gln Arg Glu Pro Ile Cys Cys Phe Asp Ser Ile Pro Cys
277             20                  25                  30
278 Ala Asp Gly His Val Ser Arg Lys Pro Gly Glu Arg Glu Cys Glu Gln
279         35                  40                  45
280 Cys Gly Glu Asp Tyr Trp Ser Asn Ala Gln Lys Ser Glu Cys Val Leu
281     50                  55                  60
282 Lys Glu Val Glu Tyr Leu Ala Tyr Asp Glu Ala Leu Gly Phe Thr Leu
283 65                  70                  75                  80
284 Val Ile Leu Ser Val Phe Gly Ala Phe Val Val Leu Ala Val Thr Ala
285                 85                  90                  95
286 Val Tyr Val Ile His Arg His Thr Pro Leu Val Asn Ala Ser Asp Trp
287             100                 105                 110
288 Gln Leu Gly Phe Leu Ile Gln Val Ser Leu Ile Ile Met Leu Leu Ser
289         115                 120                 125
290 Ser Met Leu Phe Ile Asp Lys Pro His Asn Trp Ser Cys Met Ala Gly
291     130                 135                 140
292 Gln Val Thr Leu Ala Leu Gly Phe Ser Leu Cys Leu Ser Cys Leu Leu
293 145                 150                 155                 160
294 Gly Lys Thr Ser Ser Leu Phe Leu Ala Tyr Arg Ile Ser Lys Ser Lys
295                 165                 170                 175
296 Thr Gln Leu Thr Ser Met His Pro Leu Tyr Arg Lys Ile Ile Val Leu
297             180                 185                 190
298 Ile Ser Val Leu Ala Glu Ile Gly Ile Cys Thr Ala Tyr Leu Ile Leu
299         195                 200                 205
300 Glu Pro Pro Met Val Tyr Lys Asn Met Glu Ser Gln Asn Thr Lys Ile
301     210                 215                 220
302 Ile Leu Gly Cys Asn Glu Ile Ser Ile Glu Phe Leu Tyr Ser Met Phe
303 225                 230                 235                 240
```

Use of n and/or Xaa has been detected in the Sequence Listing. Review the Sequence Listing to insure a corresponding explanation is presented in the <220> to <223> fields of each sequence using n or Xaa.

VERIFICATION SUMMARY DATE: 12/13/2001
PATENT APPLICATION: US/10/003,356 TIME: 09:00:37

Input Set : A:\00-107.SEQ.txt
Output Set: N:\CRF3\12132001\I003356.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application No
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:148 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:149 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:150 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:151 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:152 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:153 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:154 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:155 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:156 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:157 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:158 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:366 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:367 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:368 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:369 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:370 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:371 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:372 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:373 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:374 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:375 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:376 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:377 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:378 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:379 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:380 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:381 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:382 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:383 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:384 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:776 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:777 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:778 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:779 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:780 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:781 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:782 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:783 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:784 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:785 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:786 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:787 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:788 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:789 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:790 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:791 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9

VERIFICATION SUMMARY DATE: 12/13/2001
PATENT APPLICATION: **US/10/003,356** TIME: 09:00:37

Input Set : **A:\00-107.SEQ.txt**
Output Set: **N:\CRF3\12132001\I003356.raw**

L:792 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:793 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:794 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:795 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9